REMARKS

Status of the claims:

With the above amendments, claim 2 has been canceled, claim 1 has been amended, and claims 10-12 have been added. Thus, claims 1 and 3-12 are pending and ready for further action on the merits. No new matter has been added by way of the above amendments. The amendment to claim 1 has support in original claim 2 and at page 15, lines 22-23. New claim 10 has support at page 8, line 4. New claim 11 has support at page 10, line 19. Support for new claim 12 can be found in original claims 1 and 2 as well as at page 15, lines 22-23. Reconsideration is respectfully requested in light of the following remarks.

Double Patenting

Claims 2, 3, 5-7 and 9 are rejected for non-statutory obviousness type double patenting over claims 1, 3 and 5-8 of co-pending Application No. 10/309,005. Attached to this response, please find a terminal disclaimer. Applicants believe that this terminal disclaimer obviates the rejection. Withdrawal of the rejection is warranted and respectfully requested.

Rejections under 35 USC §102

Claims 1-6, 8 and 9 are rejected under 35 USC §102(b) as being anticipated by Bass '500 (US Patent No. 6,001,500).

Claims 1, 3, 4, and 6-8 are rejected under 35 USC §102(b) as being anticipated by Muthuswamy '188 (US Patent No. 6,060,188).

Claims 1-6 and 8 are rejected under 35 USC §102(e) as being anticipated by Tanaka '586 (US Patent Application No. 2002/0076586).

Applicants traverse.

Removal of the Rejection over Bass '500

Applicants, herein present Table 1 illustrating the differences between the instantly claimed invention and the disclosure of Bass '500.

Table 1

	Electrode	Electrolyte	Primary Fuel
The present invention	Carbon particle with catalyst dispersed.	Tubular polymer electrolyte.	Methanol liquid. See claim 10.
Disclosure of Bass '500	Solid cylindrical carbon rod(core).	Polymer electrolyte fitted on carbon rod.	Hydrogen gas.

The fuel cell of Bass '500 employs a "solid cylindrical carbon rod" to sustain a polymer electrolyte. This is in stark

contrast to the fuel cell of the present invention that comprises a "carbon particle electrode" fixed on a tubular polymer electrolyte as shown in the above table 1. Moreover, the instant invention possesses remarkable catalytic activity that is not seen in the fuel cell of Bass '500. This is likely because the carbon particles of the catalyst of the instant invention is superior to the solid cylindrical rod of Bass '500.

In this regard, the fuel cell of Bass '500 has a core that is a "sold cylindrical porous conductive matrix" provided inside the tube, and a catalyst is provided outside the core. The core is a porous structure made of stainless steel, carbon rod, graphite, carbon fiber, carbon cloth, or stainless steel cloth. Please see column 2, lines 39 to 54 in Bass '500. The core has a hard porous structure. Bass '500 describes that a core having a "substantially solid structure is advantageous". Please see column 6, lines 47-48 in Bass '500. This core would lead one of ordinary skill in the art to conclude that the substantially solid structure as described in Bass '500 is able to resist high pressures which likely means Bass '500 uses hydrogen gas as a fuel source.

In contrast to Bass '500, the instant invention employs a tubular fuel cell that does not employ the core as disclosed in Bass '500. The fuel cell of the present invention has a structure that provides a hollow and flexible space so that it

is easy to adjust the contours of the device to inject liquid fuels.

Other differences between the instant invention and Bass '500 can be seen in the heat that is generated from the respective inventions. The fuel cell of Bass '500 generates considerable heat due to its large size (*e.g.*, please note that the outer radius of the fuel cell shown in Table 1 in Bass '500 is from 1.8 to 22 cm). This generated heat requires cooling to an extent that coolant "between ten and thirty times the stoichiometric air flow" (see column 9, lines 64-65 in Bass '500) is required. In contrast, the fuel cell of the instant invention is free from requiring large amounts of coolant. This allows the fuel cell of the instant invention to be mounted on portable devices.

The above structural differences between the fuel cell of the instant invention and Bass '500 is better understood when one compares the preparation methods of the respective fuel cells. In the present invention, a tubular polymer electrolyte is prepared first, and the surfaces thereof are provided with catalyst loaded carbon particles or are coated with catalyst. In contrast, in Bass '500, the catalysts are adhered on the outer surface of a carbon rod electrode as a core, and then, a polymer electrolyte is fitted to cover the electrode (*i.e.*, they

are in intimate contact). This is evident when one looks at Figure 4 in Bass '500.

Because Bass '500 fails to disclose all of the elements of the instantly claimed invention as discussed above, Bass '500 cannot anticipate the instant invention. Withdrawal of the rejection is warranted and respectfully requested.

Removal of the Rejection over Muthuswamy '188

Applicants respectfully point out that claim 2 was not rejected in the Office Action of December 16, 2003 over Muthuswamy '188. Because claim 2 has been incorporated into independent claim 1, Applicants believe that the rejection has been obviated. For this reason alone, withdrawal of the rejection is warranted and respectfully requested. Moreover, the below Table 2 illustrates the differences between the claimed invention and the disclosure of Muthuswamy '188.

Table 2

	The composition inside the tube
Present Invention	Hollow.
Muthuswamy '188	Still, rigid central core.

The fuel cell of Muthuswamy '188 has as an essential constitution, a still rigid central core" (please see column 4, line 11 in Muthuswamy '188), which renders the fuel cell

"capable of being operated at high pressure" (please see column 4, lines 5 *et seq.*). In contrast, the fuel cell of the instant invention does not employ a rigid core, which allows the instant invention to be suited for liquid fuels.

The fuel cell of Muthuswamy '188 necessitates a solid structure in order to withstand high pressure gas. This is in contrast to the fuel cell of the present invention, which is designed for compact portable devices that make it well adapted for using a direct methanol fuel cell system.

As described above, Muthuswamy '188 cannot anticipate the instant invention because Muthuswamy '188 simply fails to disclose the elements of the instantly claimed invention. Withdrawal of the rejection is warranted and respectfully requested.

Removal of the Rejection over Tanaka '586

Attached to this reply, please find a certified English translation of the priority document for the present application (*i.e.*, Japanese Patent Application No. 2001-58277). The claims are all fully supported by this document. Thus, it is believed that Tanaka '586 is no longer available as prior art and thus, the rejection is inapposite. Withdrawal of the rejection is warranted and respectfully requested.

With the above remarks and amendments, Applicants believe that the claims, as they now stand, define patentable subject matter such that passage of the instant invention to allowance is warranted. A Notice to that effect is earnestly solicited.

If any questions remain regarding the above matters, please contact Applicant's representative, T. Benjamin Schroeder (Reg. No. 50,990), in the Washington metropolitan area at the phone number listed below.

Pursuant to the provisions of 37 C.F.R. §§ 1.17 and 1.136(a), Applicants respectfully petition for one (1) month extension of time for filing a response in connection with the present application. The required fee of $110.00 is attached hereto.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.

Respectfully submitted,

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Attachment: Terminal Disclaimer
Certified English translation of the priority document (JP 2001-58277)